

Appln No. 10/774,617
Amdt date April 2, 2007
Reply to Office action of November 2, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A pressure-sensitive adhesive composition comprising a copolymer formed from a plurality of monomers that includes:
 - (a) a plurality of (meth)acrylic monomers;
 - (b) at least one trifluoroalkyl (meth)acrylate monomer; [[and]]
 - (c) at least one alkylimidazolidone (meth)acrylate monomer; and
 - (d) at least one aliphatic urethane di(meth)acrylate.
2. (Cancelled)
3. (Original) A pressure-sensitive adhesive composition according to claim 1, wherein the at least one trifluoroalkyl (meth)acrylate monomer comprises trifluoroethyl methacrylate.
4. (Original) A pressure-sensitive adhesive composition according to claim 1, wherein the at least one alkylimidazolidone (meth)acrylate monomer comprises ethylimidazolidone methacrylate.
5. (Currently Amended) A pressure-sensitive adhesive composition according to claim [[2]] 1, wherein the at least one aliphatic urethane di(meth)acrylate comprises an aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.
6. (Original) A pressure-sensitive adhesive composition according to claim 1, further comprising a surfactant system comprising at least one surfactant.

7. (Original) A pressure-sensitive adhesive composition according to claim 6, wherein the surfactant system comprises at least one surfactant having an ethylene oxide content of about 30 moles ethylene oxide to 1 mole surfactant.

8. (Original) A pressure-sensitive adhesive composition according to claim 6, wherein the at least one surfactant comprises at least one anionic surfactant and at least one nonionic surfactant.

9. (Original) A pressure-sensitive composition according to claim 1, wherein the composition is crosslinked with at least one crosslinking agent.

10. (Currently Amended) A pressure-sensitive adhesive composition comprising a copolymer formed from a plurality of monomers that includes:

- (a) a plurality of soft monomers;
- (b) at least one hard monomer;
- (c) at least one acid monomer;
- (d) at least one trifluoroalkyl (meth)acrylate monomer; [[and]]
- (e) at least one alkylimidazolidone (meth)acrylate monomer; and at least one aliphatic urethane di(meth)acrylate.

11. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the plurality of soft monomers is selected from the group consisting of alkyl acrylates having 4 to 12 carbon atoms in the alkyl group.

12. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the plurality of soft monomers comprises 2-ethylhexyl acrylate and butyl acrylate.

13. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the at least one hard monomer is selected from the group consisting of styrene, methyl methacrylate, n-hexyl methacrylate, ethyl methacrylate, isobutyl methacrylate, and n-butyl methacrylate.

14. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the at least one hard monomer comprises styrene and methyl methacrylate.
15. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the at least one acid monomer is selected from the group consisting of methacrylic acid, acrylic acid, itaconic acid and fumaric acid.
16. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the at least one acid monomer comprises methacrylic acid and acrylic acid.
17. (Cancelled)
18. (Currently Amended) A pressure-sensitive adhesive composition according to claim ~~[[17]]~~10, wherein the at least one aliphatic urethane di(meth)acrylate comprises an aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.
19. (Original) A pressure-sensitive adhesive composition according to claim 10, further comprising a surfactant system comprising at least one surfactant.
20. (Original) A pressure-sensitive adhesive composition according to claim 19, wherein the surfactant system comprises at least one surfactant having an ethylene oxide content of about 30 moles ethylene oxide to 1 mole surfactant.
21. (Original) A pressure-sensitive adhesive composition according to claim 19, wherein the at least one surfactant comprises at least one anionic surfactant and at least one nonionic surfactant.
22. (Original) A pressure-sensitive adhesive composition according to claim 10, wherein the composition is crosslinked with at least one crosslinking agent.
23. (Currently Amended) A pressure-sensitive adhesive composition comprising an emulsion copolymer formed from a plurality of monomers that includes:

- (a) 2-ethylhexyl acrylate;
- (b) butyl acrylate;
- (c) methyl methacrylate;
- (d) styrene;
- (e) methacrylic acid;
- (f) acrylic acid;
- (g) trifluoroethyl methacrylate; [[and]]
- (h) ethylimidazolidone methacrylate; and at least one aliphatic urethane di(meth)acrylate.

24. (Cancelled)

25. (Currently Amended) A pressure-sensitive adhesive composition according to claim [[24]]23, wherein the at least one aliphatic urethane di(meth)acrylate comprises aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.

26. (Original) A pressure-sensitive adhesive composition according to claim 23, further comprising a surfactant system comprising at least one surfactant.

27. (Original) A pressure-sensitive adhesive composition according to claim 26, wherein the surfactant system comprises at least one surfactant having an ethylene oxide content of about 30 moles ethylene oxide to 1 mole surfactant.

28. (Original) A pressure-sensitive adhesive composition according to claim 26, wherein the at least one surfactant comprises at least one anionic surfactant and at least one nonionic surfactant.

29. (Original) A pressure-sensitive adhesive composition according to claim 23, wherein the plurality of monomers further includes at least one chain transfer agent.

30. (Original) A pressure-sensitive adhesive composition according to claim 23, wherein the composition is crosslinked with at least one crosslinking agent.

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31. (Currently Amended) A pressure-sensitive adhesive composition according to claim 23, wherein the plurality of monomers, on percent-by-weight basis, based on the total weight of monomers, consists essentially of:

- (a) about 10% to 22% 2-ethylhexyl acrylate;
- (b) about 58% to 70% butyl acrylate;
- (c) about 3% to 8% methyl methacrylate;
- (d) about 1% to 5% styrene;
- (e) about 2% to 5% methacrylic acid;
- (f) about 2% to 5% acrylic acid;
- (g) about 0.5% to 2.5% trifluoroethyl methacrylate; [[and]]
- (h) a positive amount up to about 1% ethylimidazolidone methacrylate; and
- (i) at least one aliphatic urethane di(meth)acrylate, in a total amount of up to about 1.6% by weight.

32. (Cancelled)

33. (Currently Amended) A pressure-sensitive adhesive composition according to claim [[32]]31, wherein the at least one aliphatic urethane di(meth)acrylate comprises an aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.

34. (Currently Amended) A pressure-sensitive adhesive composition comprising an emulsion copolymer formed from a plurality of monomers that includes, on a percent-by-weight basis, based on the total weight of monomers:

- (a) about 80% to 90% of a plurality of soft monomers;
- (b) about 3% to 10% of a plurality of hard monomers;
- (c) about 3% to 8% of a plurality of acid monomers;
- (d) a positive amount up to about 1% of at least one alkylimidazolidone (meth)acrylate monomer; [[and]]
- (e) about 0.5% to 2.5% of at least one trifluoroalkyl (meth)acrylate monomer; and
- (f) at least one aliphatic urethane di(meth)acrylate, in a total amount of up to about 1.6% by weight, based on the total weight of the plurality of monomers.

35. (Cancelled)

36. (Currently Amended) A pressure-sensitive adhesive composition according to claim [[35]]34, wherein the at least one aliphatic urethane di(meth)acrylate comprises an aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.

37. (Currently Amended) A pressure-sensitive adhesive composition comprising an emulsion copolymer formed from a plurality of monomers that includes, on a percent-by-weight basis, based on the total weight of monomers:

(a) about 80% to 90% of a plurality of soft monomers, selected from the group consisting of alkyl acrylates having 4 to 12 carbon atoms in the alkyl group;

(b) about 3% to 10% of at least one hard monomer, selected from the group consisting of styrene, methyl methacrylate, n-hexyl methacrylate, ethyl methacrylate, isobutyl methacrylate and n-butyl methacrylate;

(c) about 3% to 8% of at least one acid monomer, selected from the group consisting of methacrylic acid, acrylic acid, itaconic acid and fumaric acid;

(d) a positive amount up to about 1% of at least one alkylimidazolidone (meth)acrylate monomer; [[and]]

(e) about 0.5% to 2.5% of at least one trifluoroalkyl (meth)acrylate monomer; and

(f) at least one aliphatic urethane di(meth)acrylate, in a total amount of up to about 1.6% by weight, based on the total weight of the plurality of monomers.

38. (Cancelled)

39. (Original) A pressure-sensitive adhesive composition according to claim 38, wherein the at least one aliphatic urethane di(meth)acrylate comprises an aliphatic urethane diacrylate having a molecular weight of about 5,000 g/mol.

40. (Original) A pressure-sensitive adhesive composition according to claim 37, wherein the plurality of soft monomers comprises:

(a) 2-ethylhexyl acrylate, in a total amount of from about 10% to 22% by weight, based on the total weight of the plurality of monomers; and

(b) butyl acrylate, in a total amount of from about 58% to 70% by weight, based on the total weight of the plurality of monomers.

41. (Original) A pressure-sensitive adhesive composition according to claim 37, wherein the at least one hard monomer comprises:

(a) methyl methacrylate, in a total amount of from about 3% to 8% by weight, based on the total weight of the plurality of monomers; and

(b) styrene, in a total amount of from about 1% to 5% by weight, based on the total weight of the plurality of monomers.

42. (Original) A pressure-sensitive adhesive composition according to claim 37, wherein the at least one acid monomer comprises:

(a) acrylic acid, in a total amount of from about 2% to 5% by weight, based on the total weight of the plurality of monomers; and

(b) methacrylic acid, in a total amount of from about 2% to 5% by weight, based on the total weight of the plurality of monomers.

43. (Original) A pressure-sensitive adhesive composition according to claim 37, further comprising a surfactant system comprising at least one surfactant.

44. (Original) A pressure-sensitive adhesive composition according to claim 43, wherein the surfactant system comprises at least one surfactant having an ethylene oxide content of about 30 moles ethylene oxide to 1 mole surfactant.

45. (Original) A pressure-sensitive adhesive composition according to claim 43, wherein the at least one surfactant comprises at least one anionic surfactant and at least one nonionic surfactant.

46. (Original) A pressure-sensitive adhesive composition according to claim 37, wherein the composition is crosslinked with at least one crosslinking agent.

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47. (Original) An adhesive construction comprising a pressure-sensitive adhesive composition according to any one of claims 1, 10, 23, 34, or 37, coated on or laminated to a facestock.

48. (Original) An adhesive construction according to claim 47, wherein the facestock comprises a vinyl film.